

SECTION 5A

VENETIAN BLINDS, METAL SLAT

5A-01 SCOPE: The work covered by this section of the specifications consists of furnishing all plant, labor, equipment, and materials not furnished by the Government, and of performing all operations in connection with the installation of venetian blinds, metal slat, complete, in strict accordance with this section of the specifications and the applicable drawings, and subject to the terms and conditions of the contract.

5A-02 APPLICABLE SPECIFICATIONS: The following Federal Specifications, of the issues listed below but referred to thereafter by basic designation only, form a part of this specification:

QQ-M-151a	Metals; General Specification for Inspection of
RR-B-446	Blinds, Venetian, Metal Slat
CCC-T-191a	Textiles; General Specifications, Test Methods

5A-03 GENERAL: Venetian blinds shall conform to Federal Specification RR-B-446, and shall be of the types, class and sizes hereinafter specified. Venetian blinds shall be installed outside the jamb. Width of venetian blinds shall be such that the blinds shall extend at least 3 inches from each side of the window wall opening and the height shall be such that when in a full-length open hanging position, the lower edge of bottom rail shall be at least 3 inches below the top of the window sill. All windows, except those in Bath Rooms, Storage Room and Service Area of 4-Man Standard BOQ and those in Kitchens, Utility Rooms and Toilets of Two Bedroom Duplex Houses, shall be provided with venetian blinds. Venetian blinds shall be of approved American manufacture only.

5A-04 TYPES, CLASS AND SIZES: Venetian blinds shall be of the following types, class and sizes:

a. Type I (Single-pull or lift type), Class 2 (Aluminum Slats), 64 inches or less in width, and not more than 35 square feet in area.

b. Type II (Compound-pull or easy lift type), Class 2 (Aluminum Slats), over 64 inches to 144 inches in width, and not more than 80 square feet in area.

5A-05 SAMPLES AND SHOP DRAWINGS: A sample of each type of venetian blinds proposed for use shall be submitted to Contracting Officer for approval in accordance with paragraph GC-8 of these specifications. Shop drawings showing details of mounting, position, hold-down brackets and other pertinent data shall be submitted to the Contracting Officer for approval in accordance with paragraph SC-14 of these specifications.

5A-06 DESIGN: Venetian blinds shall be of the free-hanging design, with slats adjustable to various angles. Tilting of all types of blinds shall be controlled by cords, so equipped as to keep both ends of the tilt cords within convenient reach. The raising and lowering shall be controlled by cords. The venetian blinds shall be so constructed as to be easily removed from windows and disassembled for maintenance.

5A-07 MATERIALS: All materials used in the construction of the venetian blinds shall be of a grade suitable for the purpose, and shall be free from defects which affect their appearance or which may affect their serviceability.

a. Slats shall be of flexible aluminum having a flexibility to permit a 180-degree bend around a 2-inch-diameter cylinder without harm or permanent deformation to the slats, or injury to the finish when released to its original shape. Bend shall be made on both the convex and concave sides, but shall not include the cord holes. After the bend test, the slats when placed on a plain surface with the concave side down, the perpendicular distance of the supporting surface to any point on either edge of the slat shall not exceed 1/8 inch. With the slat similarly supported, the maximum difference in the perpendicular distance to the edge of the slats for any two points 3 inches apart, along either edge, shall not exceed 1/32 inch.

b. Headbox shall be made of cold-rolled steel not less than 0.024 inch thick and shall be fully enclosed type with an adjustable feature. Headbox shall have safety lugs on each of the back panel to interlock on the installation brackets. Headbox shall be electro-galvanized, bonderized and enameled to match the finish of the slats.

c. Installation brackets attached to each end of the headbox shall be of heavy gage metal substantially constructed and so designed as to securely hold blind at installation points without shifting movement during operation. Brackets shall match headbox in design and finish, and shall be of the universal type suitable for hanging blinds outside the face of the jambs. Brackets shall be designed with a locking device that positively secures headbox in installation brackets, yet allows ready removal when necessary. Brackets shall have centering tabs for width adjustments and shall be designed to provide positive support for hardware allowing curtain and drapery attachments. One center support to securely hold blind shall be provided where blinds are over 64 up to 100 inches, and two center supports where blinds are over 100 up to 120 inches.

d. Tilting device shall be of the self-adjusting type, allowing easy leveling of the cord lengths, and shall provide smooth positive tilting action without slipping, sticking or binding. It shall respond to the slightest pull and be capable of changing the position of the slats from one extreme to the other. It shall securely hold the slats and bottom rail at desired angle. It shall have a brass worm gear and be securely mounted on a hardened steel shaft. This worm gear shall be accurately meshed with a precision cut sector gear affording maximum tilt and providing positive thrust bearing qualities. Cord guides shall keep cords snubbed into cord wheel giving greater traction, preventing cord from slipping off of wheel, or scraping sides of the headbox. The cord wheel shall be designed to provide necessary traction for smooth, positive tilting action without causing undue wear of the tilt cord. The tilting unit shall be substantially constructed throughout and be securely mounted in the headbox. It shall be so designed that removal is easily accomplished.

e. Automatic stop or lifting cord lock shall be provided for all blinds and shall be designed to hold the blind securely at any height by simply drawing the lifting cord to the center of the window. The device shall operate effectively without chafing or cutting the cords. Unless otherwise specified, the automatic stop or locking device shall be at the right end of the blind.

f. Bottom rail shall be constructed of cold-rolled steel not less than 0.024 inch thick, electro-galvanized, bonderized and enameled to match headbox and the slats. Bottom rail shall be of sufficient strength and so constructed as not to sag or twist. It shall be of one-piece steam-lined design. Tape and cord ends shall be concealed in and securely fastened to bottom rail and shall be easily removable when desired. Design and finish of tape clamp shall harmonize with bottom rail. Bottom rail shall be fitted with matching end caps with provision for attachment of hold-down brackets.

g. Metal equalizer shall be provided for all blinds to hold the pull cords together and to insure even raising and lowering of the blinds.

h. Hold-down brackets shall be provided to hold the blinds in position when in full-length open hanging position, and to prevent the blinds from swaying.

#### 5A-08 CONSTRUCTION:

a. Slats: All slats in the open-hanging position of the blind at any height and at any angle shall be parallel and evenly spaced. The slats shall be formed with a curved surface and be rigid enough to lend stability against sagging, bending, or kinking. When the blind is completely raised to its highest position, it shall be neat and compact. When the slats are tilted in either of the extreme close positions while the blind is in the hanging position, practically no light shall show between the slats and rails and each slat shall overlap the slat immediately below it by not less than  $\frac{1}{4}$  inch. The blind shall be easily detachable and replaceable as a unit. When in hanging position the blind shall be securely locked in place.

(1) Dimensions of Slats: Aluminum slats shall be 0.10 inch plus or minus 0.001 inch thick and 2 inches plus or minus  $\frac{1}{8}$  inch wide.

(2) Cord slots and grooves for the passage of cords in the slats shall be smooth, without rough or sharp edges which may cut or abrade the cords.

b. Ladder tapes shall be first quality solid ladder cotton and shall consist of side straps  $1\frac{1}{2}$  inches plus or minus  $\frac{1}{16}$  inch wide and cross straps or ladders at least  $\frac{3}{8}$  inch wide. The cross straps shall be solid woven with ends interwoven with the inside surface of the side straps.

(1) Attachment and Spacing: The end of each side strap of the ladder straps shall be neatly and securely attached to the headbox and bottom rail by at least two substantial brass-head nails, metal clips or approved equal. Staples will not be acceptable. Tapes shall be in line with

all suspension cords and slots from both sides of the blind spacing of tapes shall be uniform and shall not exceed 28 inches between centers. The overhang shall be not more than 7 inches from center of end tapes to end of slats.

(2) Breaking Strength: Side straps of ladder tapes, when tested individually, shall have a minimum breaking strength of 250 pounds. Cross straps, when tested individually, shall have a minimum breaking strength of 20 pounds without breaking or tearing away from the side straps of the ladder tapes. Breaking strength test shall be in accordance with Federal Specification CCC-T-191.

(3) Color Fastness and Shrinkage: The side straps and cross straps of the ladder tapes shall have good color fastness to light and water, and shall not shrink more than 7 percent in the warp when tested in accordance with the applicable methods described in Federal Specification CCC-T-191. The color fastness to light shall be by the Fade-O-Meter method.

c. Lifting and tilting cords shall be of sufficient length for convenient and efficient use. Ends of tilt cords shall have neat wood or composition pull knobs attached.

(1) Attachment: Cords shall be attached in a neat and positive manner, and shall be easily detachable and replaceable. Unless otherwise specified, the tilting cords shall be near the end of the left side of the blind, and the lifting cords shall be near the end of the right side.

(2) Cords shall be filled, uniformly braided cotton, finished to minimize wear, stretch, and abrasion. Cords for type I and type II blinds shall be not less than size No. 4 $\frac{1}{2}$  having a breaking strength of not less than 125 pounds. Cords shall remain uniformly taut in use.

d. Type I, single-pull or lift type, blinds shall operate over substantially constructed and easily revolving brass pulleys.

(1) Bottom rails shall be not less than  $\frac{3}{4}$  inch in thickness and not less than  $1\frac{3}{4}$  inches nor more than  $2\frac{1}{8}$  inches in width.

(2) Pulleys and Housing: Headbox shall securely and efficiently house a sufficient number of pulleys, over which the pull cords shall operate in such a manner as to prevent binding and unnecessary rubbing of the cords. Pulleys shall be enclosed and shall not be visible when the blind is in the hanging position.

(3) Cord shall be used for tilting the slats and shall be as hereinbefore specified.

e. Type II, compound-pull or easy lift type, blinds shall be raised and lowered by at least four cords operating over a system of substantially constructed and easily revolving brass pulleys, providing a lift of one foot of blind for each 2 feet of travel of the lift.

(1) Bottom rails shall be not less than 3/4 inch in thickness and not less than 1-3/4 inches nor more than 2-1/8 inches in width.

(2) Pulleys and Housing: Headbox shall securely and efficiently house a sufficient number of easily revolving pulleys, over which pull cords shall operate in such a manner as to prevent binding and unnecessary rubbing of the cords. Pulleys shall be enclosed and shall not be visible when the blind is in the hanging position.

5A-09 FINISH AND COLOR:

a. Aluminum slats shall receive a chemical dip to provide a maximum bond between aluminum and baked enamel finish. Finish shall be capable of withstanding 350 hours standard salt-spray test with no noticeable deterioration of paint or metal. Finish in cream or eggshell color shall be alkyd resinous base or approved equivalent and shall resist chalking or deterioration under exposure to strong sunlight.

b. Ladder Tapes: Unless otherwise specified, color of tapes shall harmonize with that of the slats.

c. Headbox, bottom rail and installation brackets shall be finished with high grade enamel on bonderized surfaces to match the color of the slats.

d. Cords shall match the color of the slats.

e. Hardware: All visible hardware shall be lacquered or enameled to match the color of the slats.

5A-10 WORKMANSHIP:

a. Operation of Parts: All component parts shall fit properly and securely, and all movable or revolving devices or parts shall operate smoothly and easily and shall be simply and easily adjustable or controlled. Hardware used for lifting devices, and automatic stops or lifting cord locks shall fit and operate efficiently with the type and size of cord provided with each blind.

b. Wearing surfaces of moving parts, and bearings shall be so designed as to provide maximum durability.

c. Surfaces and Edges: All surfaces of the blinds shall be smoothly finished and all exposed edges shall be rounded. Ends of slats and rails shall be at right angles and shall be rounded.

5A-11 WOOD CORNICE with built-in drapery rod shall be provided for all venetian blinds. Cornice shall be made of B & Better Douglas Fir or approved equal, beaded, standard size, shall have back return and shall conceal mounting brackets, mechanism and drapery heading. Built-in drapery rod shall be steel, galvanized and enameled, shall snap into brackets and shall be designed to carry draperies around end of blinds. Wood cornice shall be enameled to match finish of slats.